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Hawaii Falls Prevention State Plan

Executive Office on Aging - Department of Health

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Senator Suzanne Chun Oakland
Dr. Linda Rosen, Chief Emergency Medical Services
Dr. Dan Galanis, Epidemiologist-IPCP
Dr. Maeona Mendelson
The University of Hawaii-Hilo, College of Pharmacy

A special thank you to all members of the Statewide Task Force on Falls Prevention!
Steering Committee: Dr. Wesley Lum, David Nakamaejo, Stan Michaels, Heather Chun

Workgroup 1 Participants:

Heather Chun
Kate Hansen-Schmitt
Craig Yamaguchi
Dr. Kamal Masaki
Marty Oliphant
Dee Robinson
Virginia Tully

Workgroup 2 Participants:

Stan Michaels
Suzanne Asaro
Kealoha Takahashi
Eudice Schick
Karen Halemano
Lynn Milligan
Billie Jeanne Tang

Workgroup 3 Participants:

David Nakamaejo
Pat Adams
Susan Young
Deborah Arendale
Alan Parker
Judy Taketa
Dr. Cullen Hayashida

Other Task Force Members:

Lea Owan
Dr. Shari Kogan
Linda Axtell-Thompson
Sandy Kakiuchi
Avis Sakata
Ann Frost
Barbara Kim Stanton

Forward

Falls are the leading cause of accidental fatal and non-fatal injuries among Hawaii's older adults (EMSIPSB, 2011; Centers for Disease Control, 2008; National Council on Aging, 2005). Threatening the independence and quality of life of older adults, falls often disrupt the overall functioning of tightly woven family and support systems.

Notwithstanding this devastating problem, there is good news for Hawai'i. State agencies, aging service providers, public health workers, healthcare professionals, and families have grown increasingly aware of the need for intervention. We know that falls are not a normal part of aging, and that falls are often preventable. Major efforts in Hawai'i exist to help healthcare professionals and communities learn about how to prevent falls among older adults. Out of those efforts, the ensuing report was developed.

Key players for the report include the Injury Prevention Advisory Committee (IPAC), the Hawai'i State Fall Prevention Consortium, and the Statewide Task Force on Falls Prevention. IPAC's 2012-2017 Hawai'i Injury Prevention Plan (HIPP) provided the report's foundation with recommendations for reducing falls among older adults in the State. The Hawai'i State Fall Prevention Consortium will be an instrumental player as they implement the strategies from the Statewide Task Force on Falls Prevention's subsequent State Plan. The State Fall Prevention Consortium was founded in 2003 with support and leadership from the Injury Prevention and Control Program (IPCP) of the Hawai'i Department of Health. The key initiatives of the Hawai'i State Fall Prevention Consortium are falls prevention provider information and infrastructure building.



Hawaii's Statewide Task Force on Falls Prevention was established through the Executive Office on Aging, with participation from a multidisciplinary team of professionals. The Hawai'i Statewide Falls Prevention Task Force was established to develop the following state plan as a guide to strengthen and strategically focus falls prevention efforts in Hawai'i. This plan outlines a suggested framework for action to be taken on by the Hawai'i State Fall Prevention Consortium. The term "stakeholder" is entwined in the plan, referring specifically to the target audience which includes older adults, families, caregivers, the public, professionals, students, and policymakers.

The Task Force recognizes that many of the strategies will require fiscal commitment, policy changes and system changes that are often difficult during strained economic times; however, falls among older adults are a visible and complex health concern that will undoubtedly continue to grow without immediate intervention.

Executive Summary

The Problem: In 2010 there were 195,138 adults over age 60 living in Hawai'i (U.S. Census, 2010). Based on local, national, and international research, one-third of older adults, or kūpuna, suffer from falls each year, often times resulting in prolonged hospitalization, long-term care placement, or death (EMSIPSB, 2011; Centers for Disease Control, 2008; National Council on Aging, 2005; World Health Organization, 2007). We know that Hawaii's kūpuna strongly value their ability to age in place at home (AARP, 2011). Without intervention, however, approximately 65,046 (or one-third) of kūpuna will fall each year in Hawai'i (EMSIPSB, 2011; Centers for Disease Control, 2008; National Council on Aging, 2005; World Health Organization, 2007; U.S. Census, 2010).

The Solution: The good news is that falls are not an inevitable consequence of aging and that falls can be prevented (EMSIPSB, 2011; Centers for Disease Control, 2008; National Council on Aging, 2005; World Health Organization, 2007). What's more, Hawai'i recognizes the devastating consequences falls have on our kūpuna, families, and healthcare systems, and the Hawai'i Department of Health has identified falls as a public health priority. In Hawaii's Injury Prevention and Control Program's (IPCP) Hawaii Injury Prevention Plan (HIPP; 2012-2017), fall prevention was identified as one of the eight injury areas in need of strengthening statewide. The Executive Office on Aging initiated a Statewide Task Force on Falls Prevention, bringing together a multidisciplinary team to develop strategies based on the 2012-2017 HIPP's recommendations to combat the rising epidemic of falls among Hawai'i's kūpuna.

The falls prevention recommendations from the 2012-2017 HIPP are as follows:

1. Raise awareness about fall prevention among older adults, caregivers, and providers;
2. Increase availability and accessibility of fall prevention programs statewide; and
3. Engage professionals and community members in fall prevention activities.

The Strategies: In summary, the Statewide Task Force on Falls Prevention recommended the following strategies:

1. To reduce falls among older adults, Hawai'i must initiate an educational awareness campaign built upon the four foundations of falls prevention and specifically target fall prevention messages to older adults, families, clinical professionals/ paraprofessionals, the public, students, and policymakers;
2. To reduce falls among older adults, Hawai'i must increase the availability, accessibility, and awareness of falls prevention interventions and resources statewide, strengthening the Aging and Disability Resource Centers to function as a "clearinghouse" for information; and
3. To reduce falls among older adults, Hawai'i must increase the use of standardized falls prevention assessments and evidence-based interventions during routine clinical practice.

Introduction and Background

The Hawaiʻian Islands are astounding in their natural beauty and are rich with racial and cultural diversity; few locations in the world can match our natural wealth. Many tourists visiting Hawaiʻi note the strong sense of community that is shared among our State's residents. Although unique in culture and rich with a surplus of natural resources, Hawaiʻi is experiencing a phenomenon with the aging of baby boomers that is quite similar to most parts of the United States. Moreover, Hawaii's community is aging faster than many places in the country (State of Hawaii's Department of Health, Executive Office on Aging, 2006). Hawaii's fastest growing population is those 85 years and older, increasing eight times as fast as the total population between 1990 and 2010 at a rate of 190.8% (U.S. Census, 2010).

Why is Fall Prevention Important for Hawaiʻi?

Older adults are falling at alarming rates, posing significant threats to their quality of life. Hawaiʻi is experiencing a public health crisis that is being faced by communities worldwide. In Hawaiʻi, every five hours a kupuna is injured so severely in a fall that they must be treated in a hospital (EMSIPSB, 2011). One-third of older adults will experience a fall each year (EMSIPSB, 2011; Centers for Disease Control, 2008; National Council on Aging, 2005; World Health Organization, 2007; U.S. Census, 2010). Hawaiʻi averages 1,990 hospitalizations and over 5,700 emergency department visits each year as a result of falls among older adults (EMSIPSB, 2011). Half of all falls happen within a person's home, and in Hawaiʻi, 31.7% of older adults live alone in their homes (Centers for Disease Control, 2008; U.S. Census, 2010). Fall related hospitalizations are 188% higher annually than hospitalizations due to motor vehicle occupant injuries for all ages combined in Hawaiʻi (EMSIPSB, 2011).

Falls can be deadly. Hawaiʻi averages 85 deaths from falls per year among kūpuna (EMSIPSB, 2011). Falls are the leading cause of injury-related deaths among older adults (EMSIPSB, 2011; Centers for Disease Control, 2008; National Council on Aging, 2005). Of those hospitalized for a hip fracture, the most common non-fatal injury resulting from a fall, 40% never return home or live independently again, and 25% will die within one year (National Council on Aging, 2005).



Falls are costly and a threat to Hawaii's healthcare infrastructure. In 2010, Hawaiʻi spent over \$112 million in hospital medical charges for fall-related injuries among older adults (EMSIPSB, 2011). Medicare covered 90.3% of those costs, or over \$101 million (EMSIPSB, 2011). Nationally, \$28.2 billion a year is spent on direct medical costs associated with falls (National Council on Aging, 2012). By 2040 the World Health Organization estimates that, without intervention, the cost of fall related hospitalizations worldwide may increase to \$240 billion dollars annually (World Health Organization, 2007).

Understanding the Risk Factors for Falls

A fall can happen to anyone, regardless of one's age. However, the rate of injuries caused by falls among older adults in Hawai'i is vastly disproportionate to the rest of the population (EMSIPSB, 2011). The reasons are complex.

Falls often result from multifactorial risk factors (EMSIPSB, 2011; Centers for Disease Control, 2008; National Council on Aging, 2005; World Health Organization, 2007). As a person ages, their risk of falling increases and their fall risk continues to increase with age and frailty (Centers for Disease Control, 2008; National Council on Aging, 2005; World Health Organization, 2007). Of those risk factors, some are non-intrinsic or external, such as dangerous stairs or a slippery floor, and are modifiable (for example, modifying one's home to remove fall risks). Some risk factors are intrinsic or internal (for example, impaired vision or a gait and balance impairment). Intrinsic factors can be either modifiable, such as getting corrective glasses, or non-modifiable, such as a gait and balance impairment that is medically impossible to correct.

Risk Factors for Falling

INTRINSIC	NON-INTRINSIC
<ul style="list-style-type: none">• Gait and balance impairment.• Lack of exercise/sedentary behavior.• Muscle weakness.• Chronic conditions Such as: depression, osteoporosis or Alzheimer's Disease and related dementias.• Medications Issues include: lack of adherence to medication regimens, side effects or interactions of multiple prescriptions and over the counter medications, and/or type of medication including psychotropics that directly affect balance.• Impaired ADLs (activities of daily living)• Gender More common with women; however, fall related mortality disproportionately affects men.• Excess alcohol intake.• Advanced age.• Vision impairment.• Unbalanced diet.	<ul style="list-style-type: none">• Home Safety Hazards Such as: loose phone wires, cluttered hall pathways, loose rugs, insufficient lighting, and the lack of adaptive equipment in the bathrooms.• Community Safety Hazards Such as: uneven or cracked sidewalks, poor lighting in public places, lack of appropriate modification in public transportation (for example, the steps on public transportation being too high).• Inappropriate footwear. Such as: walking around the house in socks, high heels, thin or hard soles, or slippers.• Socioeconomic Status:<ul style="list-style-type: none">- Limited access to health and social services.- Low income and education levels.- Living alone.- Lack of social interactions.

(Centers for Disease Control, 2008; National Council on Aging, 2005; World Health Organization, 2007; American Medical Association, 2010)

The Good News: Falls are Preventable

Fall prevention interventions should be designed to reduce the aforementioned risk factors. The four foundations of fall prevention are physical activity, medication management, vision checks, and home modifications.

Evidence-based programs addressing the four foundations of fall prevention are effective in reducing falls and health-care costs associated with fall injuries (Centers for Disease Control, 2008; National Council on Aging, 2005; World Health Organization, 2007). For those at high risk of falling under the American Geriatric Society's guidelines (available at http://www.americangeriatrics.org/files/documents/health_care_pros/Falls.Summary.Guide.pdf), a health care provider assessment is recommended.

As Hawai'i continues to move forward with the implementation of a Statewide Aging and Disability Resource Center (ADRC) initiative, evidence-based assessment instruments, inclusive of the foundations of fall prevention, are being adopted by the Area Agencies on Aging (AAAs).

Foundation 1: Physical Activity

Evidence-based physical activity programs can affect those at an intermediate risk of falling by demonstrating and promoting sustainable physical behavior changes (Centers for Disease Control, 2008; National Council on Aging, 2005; World Health Organization, 2007). Various evidence-based fall prevention exercise programs exist (see <http://www.ncoa.org/improve-health/center-for-healthy-aging/where-to-find-evidence-based.html> for more details). For those at high risk, a physical therapist prescribed exercise and physical activity program is warranted with expectations of a referral to community programs.

Tai Chi: Moving for Better Balance is one of the evidence-based falls prevention programs shown to be effective in improving balance and reducing falls (Centers for Disease Control, 2008). This evidence-based program has been mounted in several states with the support of the Centers for Disease Control. Tai Chi for Health Institute's Tai Chi for Arthritis and Tai Chi for Fall Prevention, created by the founder of the Tai Chi for Health Institute, Dr. Paul Lam, were pilot tested in Hawaii. Also developed to improve balance, Tai Chi for Health showed promising results for Hawai'i. In 2010, the Good Samaritan Pohai Nani Senior Living Program conducted a pilot study utilizing a 12 week Tai Chi for Health program with 14 participants between the ages of 71 and 95 (EMSIPSB, 2011). Those participants who attended nearly all classes demonstrated a significant measurable improvement in balance and overall well-being, highlighting the success of this pilot program (EMSIPSB, 2011). Enhancefitness® an evidence-based exercise program that enhances balance, endurance, and strength has also been adopted statewide in Hawai'i. For more information regarding these exercise programs, please contact Hawai'i's Aging and Disability Resource Centers.



Foundation 2: Medication Management

Medications are arguably the most complex of risk factors for falls among the elderly. Kūpuna often cope with the presence of multiple health conditions, leading to their physician's prescription of multiple medications. The risk of falling for an older adult increases with the number and types of medications consumed (Centers for Disease Control, 2008; World Health Organization, 2007). Medications that have been shown to increase a person's risk of falling include: sedatives, antipsychotics, antidepressants, anticonvulsants, and antihypertensive medications (American Medical Association, 2010). In some studies, the reduction or elimination of medications has been found to be effective in reducing falls (American Medical Association, 2010). Physicians treating kūpuna must include a multifactorial risk assessment into their work, enabling them to evaluate an older person's risk of falling, which can lead to reducing or eliminating medications that increase the likelihood of falls (Cooper & Burfield, 2009). Alcohol use, by itself and when combined with certain medications, has been shown to increase a person's fall risk (Centers for Disease Control, 2008; World Health Organization, 2007). To prevent interactions with a person's medications, alcohol consumption should also be assessed (Centers for Disease Control, 2011; National Council on Aging, 2011; World Health Organization, 2007). Medication management is intertwined into several evidence-based programs, including programs available statewide such as Chronic Disease Self-Management (CDSMP) and Hawaii's Person-Centered Care Transitions Model. One of Hawaii's most promising programs is the University of Hawaii - Hilo, College of Pharmacy's medication review clinics. Conducted by a lead pharmacist and with the assistance of pharmacy students, the clinics are offered free to kūpuna three times a week at the Hilo Aging and Disability Resource Center (ADRC), and at UH Hilo College of Pharmacy locations on Maui, Kauai, and Oahu.



Foundation 3: Vision Checks

Annual vision checks are vital, as people with visual impairments are more than twice as likely to fall as people without visual impairments (Centers for Disease Control, 2008; National Council on Aging, 2005; World Health Organization, 2007). Unfortunately, vision challenges increase significantly as we mature. Through the normative aging process, less light reaches the human retina, resulting in difficulties seeing objects that may pose a fall risk such as tripping hazards and contrasting edges (Centers for Disease Control, 2008). Vision problems can increase the likelihood of a fall by decreasing the ability to detect obstacles and by lessening stability (Centers for Disease Control, 2008). Conditions left untreated such as cataracts, glaucoma and macular degeneration further elevate one's risk of falling (Centers for Disease Control, 2008). Consequences of falls that are a result of vision conditions, such as cataracts, can be daunting, often resulting in fractures. Treating vision conditions can be effective in reducing fall risk (Tseng, Yu, Lum, and Coleman, 2012). For example, a recent study found that older adults who had cataracts removed sustained 16% fewer



hip fractures in the year after surgery compared with those who did not, with the most significant benefit observed among those ages 80 to 84, who noticed a 28% reduction in hip fractures (Tseng et. Al., 2012).

Foundation 4: Home Modifications

Since nearly half of all falls happen within a person's home, homes must be fall-hazard free and, where possible, modified to reduce one's risk of falling (Centers for Disease Control, 2008; National Council on Aging, 2005; World Health Organization, 2007). For example, cost-effective modifications such as installing grab bars in the shower and/or next to the toilet are effective in reducing one's likelihood of falling in the bathroom. Other examples of effective home modifications include adding nightlights, clearing cluttered pathways in the home, adding outdoor lighting to increase visibility on the front porch, or removing slippery area rugs. Currently on the island of Hawai'i, grassroots efforts have sparked a collaborative movement with the Hawai'i County Fire Department adopting a policy to partner with the Hilo Medical Center and the Hawai'i County Aging and Disability Resource Center to assess fall risks and any home hazards of participating kūpuna to improve the safety of their homes. Similarly, an intervention program, targeting older adults who had fallen or who were at risk of falling, began in Hana, Maui in 2004 with a goal of promoting independent living and aging in place by aiding older adults through the installation of home modifications such as access ramps, minor floor repairs, and grab-bars (Ling, Henderson, Henderson, Henderson, Pedro, & Pang, 2008). Results from the evaluation of Hana's home modification program showed there was a baseline median fall rate of two; after the intervention, the median fall rate reduced to zero, highlighting the success of the intervention (Ling et. Al., 2008).



To locate programs and fall prevention resources in Hawai'i, please visit the State Department of Health's Injury Prevention website at:
<http://hawaii.gov/health/healthy-lifestyles/injury-prevention/PDF/fallsprevguide.pdf> or contact the ADRC.

Challenges for Hawai'i

Many of Hawaii's kūpuna are unaware or unbelieving of their fall risk. This surfaced after QMark Research conducted a study (July 2011) in Hawai'i on behalf of the Department of Health Injury Prevention Division utilizing focus groups, and exploring campaign messages to prevent falls among older adults. The participants in QMark Research's focus groups believed that, while the messages surrounding fall prevention will help older people be more aware of the problem, they didn't see falling as a problem for them as they did not feel they are a part of that group of "older people." This desire to "always be young" and not wishing to identify or accept any health advice related to aging may be one of the greatest communication challenges to fall prevention efforts.

Another challenge for the State of Hawai'i is that falls are often viewed as an inevitable consequence of aging, or that falls are accidents which cannot be avoided, despite the fact that most falls among older adults are preventable. This is not only a misconception held by older adults, but rather a mistaken belief that plagues the community. Changing the current paradigm by educating older adults, families, caregivers, healthcare providers, and the community that falls are preventable is imperative.

Washington State reported a shortage of healthcare professionals, specifically nurses, as a challenge faced with falls prevention efforts (Washington State Department of Health, 2002). With Hawai'i, like many other states, the scarcity of trained geriatric clinicians will certainly prove to also be a local challenge.

The final challenge in reducing falls among our kūpuna is that, although Hawaii has a series of individual fall prevention programs scattered throughout the islands, fall prevention interventions in the State of Hawai'i lack a coordinated plan and systematic process to engage, collaborate and partner with professionals, organizations, agencies and the general public to increase their awareness of evidence-based fall prevention interventions as well as their awareness of fall prevention resources in their community. Fall prevention is a process which involves continual monitoring and commitment; it is not a singular service (American Occupational Therapy Association, 2010).



How is Hawai'i Taking Action?

Despite the challenges, many innovative programs and initiatives based upon the four pillars of fall prevention are underway in communities throughout the State to reduce falls among our Kūpuna. A few examples include:

- Maui County Office on Aging's ADRC was the first county in the State to implement the evidence-based in-home assessment instrument (Inter-RAI®) which will be implemented statewide by 2015. The inter-RAI® in-home assessment calculates a triggers report which informs the assessor of potential risks, such as the consumer being at risk of falling, and thus triggers the use of Clinical Assessment Protocols (CAPs). There are 27 CAPS assessments which are designed to work towards a more integrated health information system. An older adult who is at risk of falling will trigger the assessor to follow up with a falls CAP, thus enabling further assessment of the older adult on fall history, physical performance limitations, visual impairments, cognitive impairments, postural hypotension, cardiac arrhythmia, medications, environmental factors, levels of physical activity, pain from osteoarthritis and other conditions, diseases, and vitamin D deficiency (Morris et. Al., 2010). The goal of the falls CAP is to develop strategies to prevent future falls and to provide care planning suggestions (Morris et. Al., 2010). Of the 320 in-home interRAI® assessments conducted by Maui's ADRC between April 1st, 2012 and November 1st, 2012, 15.9% of those assessed were at high-risk of falling, averaging 7 older adults per month. As the inter-RAI® continues to be implemented statewide, Hawaii's ability to tracking falls among older adults statewide will be enhanced.
- Many grassroots efforts are currently underway to reduce falls among Hawaii's kūpuna. One leader in grassroots efforts is Project Dana, a volunteer based organization which provides support services for frail elderly and community members with disabilities. Project Dana developed a home safety fall prevention program over ten years ago, providing home safety assessments, education, and recommendations on modifying one's home to reduce fall risk.
- Through efforts of the National Falls Free® Initiative, the first day of fall in September is now recognized nationally as falls prevention awareness day with 37 states participating in 2010, including Hawai'i.
- Three successful falls prevention educational conferences have been held in Hawai'i.
- The Hawai'i State Fall Prevention Consortium was convened in 2003, which was established with the support of Injury Prevention and Control Program of the Department of Health. The purpose of the Consortium is to provide organizations, professionals, caregivers, advocates and other interested stakeholders the opportunity



to collaborate on policies and projects which aim to reduce the incidence and severity of falls and fall related injuries among kūpuna. The Consortium is an active member of the National Falls Free® Initiative.

- In 2005, the Injury Prevention Advisory Committee and the Department of Health’s Injury Prevention and Control Program released the first Hawai’i Injury Prevention Plan (2005-2010), or HIPP. The HIPP outlined recommendations for the eight injury areas which are the leading causes of injury morbidity and mortality in Hawai’i; falls were included among the eight injury areas outlined (Hawai’i State Department of Health, 2005). The most recent HIPP was released in 2012, again identifying falls as one of Hawai’i’s eight injury areas of focus. The HIPP’s fall prevention recommendations served as the foundation for Hawaii’s Statewide Task Force on Falls Prevention.
- In 2011 the Hawai’i Statewide Falls Prevention Task Force was established through the Executive Office on Aging. The Task Force was created to develop a State Plan (with implementation responsibilities tasked to the Hawai’i State Fall Prevention Consortium) which is detailed in the following sections.

Falls prevention efforts are critical in developing and strengthening state, national, and international policies. The National Council on Aging is steering national fall prevention efforts, publishing a National Action Plan in 2005, and leading the nation in the “Falls Free® Initiative.” An active component of the initiative is a 42 state member State Coalitions on Fall Prevention Workgroup; the Hawai’i State Fall Prevention Consortium is an active member. In Hawai’i, several state and local organizations, such as the Executive Office on Aging, the Emergency Medical Services Injury Prevention Systems Branch of the Department of Health, county Area Agencies on Aging, the University of Hawaii-Hilo, College of Pharmacy medication review clinics programs, and several care facilities and non-profit organizations have recognized the public health threat and have combined efforts to develop policy recommendations to strengthen our state by aiming to reduce falls and fall-related injuries. The State of Hawai’i will need to support and rely upon collaboration among all stakeholders to employ strong and effective community-wide interventions to prevent falls. In that spirit, the Statewide Taskforce on Falls Prevention has developed the following comprehensive recommendations which are detailed in the ensuing section.



Implementation of a State Plan on Falls Prevention

The Statewide Task Force on Falls Prevention has carefully developed strategies that will work towards the development of the Hawai'i State Fall Prevention Consortium's operational plan, with the shared mission of reducing falls and fall-related injuries among Hawaii's kūpuna. Cross-disciplinary efforts formed the task force, collaborating to identify innovative approaches to achieve this mission.

The Task Force divided itself into three workgroups, with each group's focus aligning with one of the recommendations of Hawaii's Injury Prevention Plan (2012-2017). The workgroups included:

- Workgroup 1: Raising awareness about falls prevention among older adults, caregivers, and providers;
- Workgroup 2: Increasing availability and accessibility of fall prevention programs statewide; and
- Workgroup 3: Engaging professionals and community members in fall prevention activities.

Considerations Before Reviewing the Task Force's Strategies:

- In developing this report, the Statewide Task Force on Falls Prevention recognized that there is a cost associated with many of the recommended strategies. Funding sources will need to be secured for sustainability of the proposed falls prevention infrastructure. Medicare is the principal insurance payer for fall-related injuries among kūpuna, covering 90.3% of such medical charges in 2010 (EMSIPSB, 2011). On average, one fall-related hospitalization costs \$26,680 (EMSIPSB, 2011). In Hawai'i, every three hours an older adult is transported by ambulance to the hospital for a fall-related injury (EMSIPSB, 2011). If we do not reduce the number of falls among older adults, Hawaii's healthcare system will be threatened as the volume of fall-related injuries being treated by emergency healthcare providers continues to grow, impeding our resources and ability to care for all ages. Funding must be secured so that we can aid our older population in preserving their quality of life by reducing preventable falls, and subsequently strengthening our State's public health system.
- The strategies developed are based on existing evidence of other falls prevention infrastructures and evidence-based interventions, as well as the four foundations of falls prevention that have been implemented nationwide.
- This report details the strategies developed by the Statewide Task Force on Falls Prevention. Hawaii's strength lies within our community. The Task Force recognizes that there are already existing formal and informal falls prevention supports and networks, and when considering implementation, the task force recommends leveraging those existing supports by collaborating and coordinating with others within the falls prevention network and, most importantly, with kūpuna and their families. This community approach will strengthen Hawaii's healthcare infrastructure, supporting the notion of active aging while preventing falls over the lifespan.

Task Force Strategies

Recommendation 1: Raise awareness about fall prevention among older adults, caregivers, and providers (Hawai'i Injury Prevention Plan, 2012-2017).

To reduce falls among older adults, Hawai'i must initiate an educational awareness campaign built upon the four foundations of falls prevention and specifically targeting fall prevention messages to older adults, families, clinical professionals/ paraprofessionals, the public, students, and policymakers.

Strategies Developed by the Task Force:

1. Develop or leverage existing educational media inclusive of the four foundations of falls prevention.
 - i. Develop, or leverage from existing resources, a media DVD. Media should be organized into easily comprehensible and identifiable sections including, but not limited to: 1) the four foundations of falls prevention; 2) post fall injury assistance; and, 3) accessing fall prevention resources in one's community. Brochures utilizing the same target specific message are also recommended. To enhance comprehension of falls prevention messaging, educational media should first be presented, in a discussion group or individually, by clinical professionals/paraprofessionals who have had extensive falls prevention training. During these presentations, clinical professionals/paraprofessionals must strongly stress the importance of post fall injury assistance. We know that, even with falls prevention education and resources, older adults in Hawai'i will fall. Research shows that getting help quickly after a fall (through the assistance of electronic monitoring devices, for example) reduces the risk of hospitalization by 26% and death by over 80% (Noury, Rumeau, Bourke, O'Laighin, & Lundy, 2008). Any falls prevention media shall be made accessible to the community by linking resources to the Aging and Disability Resource Centers (ADRCs) through the Area Agencies on Aging (AAAs). Information on accessing the ADRC is included in Appendix B.
- ii. An alternative to a media DVD through the education campaign may be to promote the Kapiolani Community College Kūpuna Education Center's Direct Care Worker On-Line Training. The on-line training offers 23 courses on aging topics, with one course dedicated to fall prevention (the course content is inclusive of the four foundations of falls prevention). For more information please visit the Kūpuna Education Center's website at www.kupunaeducation.com.

Key Players: Aging and Disability Resource Center's staff, clinical professionals/paraprofessionals, Hawaii's Falls Prevention Consortium, and media consultants.

Intended Targets: Older adults, families, clinical professionals/ paraprofessionals, the public, students, and policymakers.

Key Players: Kapiolani Community College and the Hawaii Falls Prevention Consortium.

Intended Targets: Clinical professionals/paraprofessionals and students.



iii. Lastly, another alternative to raising awareness is to develop other types of media inclusive of the four foundations of falls prevention, such as a powerpoint presentation. The powerpoint presentation may be developed specifically for different target populations (for example, a lay person, persons who are at a high risk for falling, or professionals). The information may also be communicated to each of these target groups by creating fall prevention brochures or activating social networks (such as Facebook® or Twitter® campaigns). It is important to note that, as media is developed, raising awareness of falls prevention will rely heavily upon professionals as they distribute the information to those at risk of falling and to families within the community.

Key Players: Clinical professionals/paraprofessionals and the Hawaii Falls Prevention Consortium.

Intended Targets: Older adults, families, clinical professionals/paraprofessionals, the public, students, and policymakers.



2. Activate community collaboration to strengthen the educational campaign's goal of reducing falls among older adults through the four foundations of falls prevention.

i. Develop partnerships with the media to support a comprehensive educational campaign with the four foundations of falls prevention serving as the platform. Partnering with the media (such as news stations, public radio stations, newspapers) may provide a venue capable of capturing a larger target audience to absorb falls prevention messages. The media will be a powerful agent of change. One possibility may be the development of a public service announcement addressing the foundations of falls prevention.

Key Players: Marketing/broadcasting professionals and Hawaii's Falls Prevention Consortium.

Intended Targets: Older adults, families, clinical professionals/ paraprofessionals, the public, policymakers, and students.

ii. Expanding Hawaii's falls prevention network by adding and sustaining partnerships that promote the core mission of reducing falls and fall-related injuries among older adults may further support an educational campaign. Faith-based organizations, for example, may add significant value to falls prevention efforts in Hawai'i. Some families do not receive information from a television; therefore, public service announcements would be ineffective in delivering to them falls prevention messages. These cultures and families, however, may be actively engaged at their local church where they could receive information on the foundations of falls prevention. Other possible partnerships may include: senior centers, parks and recreation, congregate dining centers, senior housing projects, assisted living facilities, nursing homes, rehabilitation centers, and community centers. Expanding the network will strengthen the educational campaign as falls prevention messages will be absorbed by a larger percentage of intended targets.

Key Players: Hawaii's Falls Prevention Consortium, faith-based organizations and other entities with an avid interest in falls prevention.

Intended Targets: Older adults, families, clinical professionals/paraprofessionals, the public, policymakers, and students.

Recommendation 2: Increase availability and accessibility of fall prevention programs statewide (Hawai'i Injury Prevention Plan, 2012-2017).

To reduce falls among older adults, Hawai'i must increase the availability, accessibility, and awareness of falls prevention interventions and resources statewide, strengthening the Aging and Disability Resource Centers to function as a "clearinghouse" for information.

Strategies Developed by the Task Force:

1. Leverage for the support of on-going training of master trainers and for the expansion and sustainability of key movement programs that are evidence-based and based upon the four foundations of falls prevention.

- i. Falls prevention programs can help older adults 1) assess balance and strength, 2) exercise to increase their strength and balance, 3) get their medications reviewed and adjusted annually, 4) assess and modify their homes to reduce fall hazards, and 5) check for and correct vision impairments (Hawai'i Injury Prevention Plan, 2012-2017). As awareness of falls prevention increases in the community, the demand for the State's support of evidence-based interventions is projected to increase as well.

Adding to that demand is Hawaii's rapidly aging population. A need to increase our supply of falls prevention interventions and resources will meet this growing and anticipated demand, with such services being easily accessible within the community and across all populations.

Three examples are provided:

- a) The Centers for Disease Control and Prevention (CDC) identify several evidence-based exercise programs such as Tai Chi for Health, Tai Chi: Moving for Better Balance, Otago Programme, Stepping On, and Matter of Balance (Centers for Disease Control, 2008). These programs have demonstrated a reduction in medical costs (National Council on Aging, 2012). For example, Tai Chi: Moving for Better Balance has demonstrated that for every \$1 invested into the program, there is a direct medical cost saving of \$1.60 (National Council on Aging, 2012). Some



evidence-based exercise programs are already established in Hawai'i, such as Tai Chi for Health and Enhancefitness®. Hawai'i must increase the availability of "master trainers" certified to implement and carry out the aforementioned exercise programs (as well as other evidence-based programs) while also expanding programs so they are accessible to all of Hawai'i's older adults.

- b) Nonclinical home modifications are favorable to older adults at risk of falling as they view the intervention to be one which enables them to age in place and in an environment of their choice (Ling et. Al., 2008). From a cost benefit evaluation, the home modification intervention tested in Hana, Maui found that with an average home modification cost of \$800 per individual, averted fall-related medical costs resulted in \$1,728 savings, annually (Ling et. Al., 2008). The intrinsic value of home modification intervention programs, such as the one conducted in Hana, allows for annual reinvestment into the program, increasing the return on every dollar invested substantially (Ling et. Al., 2008). Building upon current programs, such as the Hawai'i County Fire Department's program on the island of Hawai'i, will cultivate a larger impact that can lead to a reduction of falls among Hawai'i's older adults. Further, research and collaboration is needed to consider possible community infrastructure improvements (i.e. public buses, senior housing developments, Honolulu Rail Transit Project, community sidewalks) to mitigate safety hazards that increase fall risk among older adults.



Key Players: Hawai'i's Falls Prevention Consortium, Aging and Disability Resource Center's staff, clinical professionals/paraprofessionals, fire departments, and master trainers.

Intended Targets: Older adults and families.

There must be ongoing evaluations of state efforts and outcomes as program assessments are essential to the sustainability of evidence-based programs. For more information on evidence-based programs please contact Hawai'i's Aging and Disability Resource Centers or connect to the Hawai'i Emergency Medical Services Injury Prevention Systems Fall Prevention Resource Guide at <http://hawaii.gov/health/healthy-lifestyles/injury-prevention/PDF/fallsprevguide.pdf>.

2. Support Hawai'i's Aging and Disability Resource Centers' (ADRCs) systems change initiative by streamlining falls prevention resources and connecting older adults at risk of falling to the ADRC.
 - i. The ADRCs provide the infrastructure necessary to support Hawai'i's developing falls prevention network, allowing all stakeholders access to falls prevention information via their Area Agency on Aging and internet access through the ADRC website. Hawai'i's Area Agencies on Aging (Elderly Affairs Division, Maui County Office on Aging, Hawai'i County Office of Aging, and County on Kauai Agency of Elderly Affairs) are working in collaboration with the Executive Office on Aging to implement fully functioning Aging and Disability

Resource Centers (which will be accessible statewide by 2015). Although there are many assessment instruments used to measure a person's fall risk, the inter-RAI® assessment was selected to be used by clinicians through Hawaii's ADRCs as it is evidence-based and will be standardized across the state, which will be important for evaluating falls among Hawaii's older adults as well as for the evaluation of the ADRC system. Hawaii's ADRCs will also carry the function of becoming the central internet database for falls prevention interventions and resources. New resources (and the Hawai'i Emergency Medical Services Injury Prevention Systems Fall Prevention Resource Guide) pertaining to falls prevention must be updated through the ADRCs to ensure that stakeholders have one central access point for resources. More information on how to access the ADRCs, as well as a link to Hawaii's Five Year Plan for implementing the ADRCs, are located in Appendix B.

Key Players: Hawaii's Falls Prevention Consortium and the Aging and Disability Resource Centers.

Intended Targets: Older adults, families, and clinical professionals/paraprofessionals.

Recommendation 3: Engage professionals and community members in fall prevention activities (Hawai'i Injury Prevention Plan, 2012-2017).

To reduce falls among older adults, Hawai'i must increase the use of standardized falls prevention assessments and evidence-based interventions during routine clinical practice.

Strategies Developed by the Task Force:

1. Encourage key professionals to acquire comprehensive falls prevention training inclusive of the four foundations.
 - i. The Statewide Task Force on Falls Prevention recommends that professionals who are licensed to work with those at risk of falling complete falls prevention training that is inclusive of the American Geriatric Society's (AGS) clinical practice falls prevention guidelines. A link to the AGS guidelines can be found at http://www.americangeriatrics.org/files/documents/health_care_pros/Falls.Summary.Guide.pdf. To facilitate the adoption of the AGS guidelines, professionals should consult the CDC's Stopping Elderly Accidents, Deaths, and Injuries (STEADI) toolkit (found at www.cdc.gov/injury/STEADI). Professionals may include, but are not limited to: licensed caregivers, physicians, nurses, opticians, pharmacists, physical therapists, occupational therapists, social workers, speech pathologists, case managers, architects, first responders, radiology technicians, and respiratory technicians. The training required for each professional will differ; however, professionals such as those listed above should be aware of the AGS guidelines and be able to direct a person in need to the Aging and Disability Resource Centers for further assistance if necessary. Further training for direct care paraprofessionals is offered through Kapiolani Community College's Kūpuna Education Center. For more information please visit the Kūpuna Education Center's website at www.kupunaeducation.com.

Key Players: Hawaii's Falls Prevention Consortium and clinical professionals/paraprofessionals.

Intended Targets: Clinical professionals/paraprofessionals and older adults.

2. Implement organizational policy changes.
 - i. Falls prevention policy changes, inclusive of the CDC's Stopping Elderly Accidents, Deaths, and Injuries (STEADI) Toolkit, are needed across provider networks, health plans, and large group practices. Activating key clinicians and provider champions will help in the engagement and education of other providers by

leveraging incentives for participation, such as education on Medicare reimbursement rates, Physician Quality Reporting Initiative (PQRI) incentives, and the billing code (V15.88) created for a patient with a history of falls or who is at risk of falling.

In 2005, the Centers for Medicare and Medicaid Services (CMS) released their Deficit Reduction Act (DRA) which implemented payment changes to prevent hospital-acquired conditions (Centers for Medicare and Medicaid Services, 2012). Subsequently, Medicare implemented a policy change in 2008 that discontinued hospital reimbursement for eight hospital-acquired conditions, including falls (Centers for Medicare and Medicaid Services, 2012). To improve care and prevent hospital-acquired conditions, the Agency for Healthcare and Quality Research (AHRQ) has released a toolkit developed by the Institute for Clinical Systems Improvement which will guide hospitals in using Inpatient Quality Indicators (IQIs) and Patient Safety Indicators (PSIs) to improve care. The toolkit, Prevention of Falls (Acute Care) is available at <http://bit.ly/Falls0412>. Hawaii's health-care networks and providers must employ a proactive approach to reducing their patients' fall risk. Providers should be required to enfold fall prevention screening into annual wellness visits and Welcome to Medicare appointments. The CDC's STEADI Toolkit was developed utilizing the feedback from healthcare providers, with special



attention given to the usability of the toolkit to address healthcare providers' expressed concerns regarding their time constraints with patients. The STEADI Toolkit includes provider resources (inclusive of provider rapid assessment tools), training materials for providers, and patient education brochures.

Please visit the following sites for more information on Medicare and reimbursement for falls-related services (<https://www.cms.gov/MLN MattersArticles/downloads/MM7079.pdf>; http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/IPPE_AWV_Call_Presentation.pdf), the CDC's STEADI Toolkit (www.cdc.gov/injury/STEADI/), AHRQ toolkit (<http://www.ahrq.gov/qual/qitoolkit/>), or the policy changes affecting hospital-acquired conditions (<http://www.cms.gov/HospitalAcqCond>).

Key Players: Hawaii's Falls Prevention Consortium and clinical professionals/paraprofessionals.

Intended Targets: Clinical professionals/paraprofessionals and older adults.

Desired Impacts

By exploring the influence of supporting and constraining forces (or those variables which may enhance or impede upon the strategies developed), we begin to look at the desired impacts of the Task Force's strategies. Exploring the desired impacts of the strategies developed will aid the Hawai'i State Fall Prevention Consortium in developing evaluative guidelines for their operational plan to reduce falls and fall-related injuries among Hawaii's older adults.

HIPP Recommendation 1:
Raise awareness about fall prevention among older adults, caregivers, and providers

Strategies Developed by the Task Force	Supporting Forces	Constraining Forces	Desired Impacts
<p>1. Develop or leverage existing educational media inclusive of the four foundations of falls prevention</p> <ul style="list-style-type: none"> • For example, a media DVD, a powerpoint presentation, brochures, or through social media. <p>2. Activate community collaboration to strength the educational campaign's goal of reducing falls among older adults through the four foundations of fall prevention.</p>	<p>The ADRC's have the capability to provide the central infrastructure which can house falls prevention resources.</p> <p>All 4 foundations may be addressed.</p> <p>A DVD is able to capture a large audience inclusive of all intended targets.</p> <p>KCC's on-line training is funded and currently available.</p> <p>Educational media can capture an audience inclusive of all intended targets and those in rural communities.</p> <p>A larger falls prevention network may lead to additional network resources (e.g. new venues to host events).</p>	<p>Recruiting new partners for the falls prevention network maybe difficult.</p> <p>Many older adults are unaware of their risk or deny being at risk of falling.</p> <p>Funding to develop a falls prevention media DVD or pubic service announcement may be difficult to obtain.</p> <p>It is difficult to ensure the fidelity of on-line training.</p> <p>It may be difficult to recruit marketing/ broadcasting professionals as they are not currently active in the falls prevention network.</p>	<p>Aging and Disability Resource Centers (ADRC's) will provide the "clearinghouse" for falls prevention resources.</p> <p>A reduction of falls and fall-related injuries among Hawaii's older adults.</p> <p>A paradigm shift within the community to the understanding that falls are not inevitable and that falls can be prevented.</p> <p>Expansion of the falls prevention network to include new partners and falls prevention "champions."</p>

HIPP Recommendation 2:
Increase availability and accessibility of fall prevention programs statewide.

Strategies Developed by the Task Force	Supporting Forces	Constraining Forces	Desired Impacts
<p>1. Leverage for the support of ongoing training of master trainers and for the expansion of evidence-based programs that are based upon the four foundations of falls prevention.</p> <p>2. Support Hawaii's ADRC systems change initiative by streamlining falls prevention resources and connecting older adults at risk of falling to the ADRC.</p>	<p>Expanding programs enables the network to capture a larger target audience, extending to those in rural areas who may otherwise have had difficulty accessing falls prevention resources.</p> <p>All 4 foundations of falls prevention may be addressed.</p> <p>The infrastructure needed for the falls prevention network is already in place through the ADRC's.</p>	<p>Funding the development and expansion of falls prevention programs may be difficult to obtain.</p> <p>The sustainability of Hawaii's ADRC's relies heavily upon the fiscal support of our federal, state and county governments.</p> <p>It may be difficult for the falls prevention network to seek commitments to ensure ongoing evaluations of state efforts and outcomes are conducted as program assessments are essential to the sustainability of evidence-based programs.</p>	<p>Aging and Disability Resource Centers will be strengthened and will be the "clearinghouse" for falls prevention resources.</p> <p>Falls prevention programs and resources will be accessible statewide.</p> <p>A reduction of falls and fall-related injuries among Hawaii's older adults.</p> <p>Expansion of the falls prevention network to include new partners and falls prevention "champions."</p> <p>A paradigm shift within the community to the understanding that falls are not inevitable and that falls can be prevented.</p>

HIPP Recommendation 3:

Engage professional and community members in fall prevention activities.

Strategies Developed by the Task Force	Supporting Forces	Constraining Forces	Desired Impacts
<ol style="list-style-type: none"> 1. Encourage key professions to acquire comprehensive falls prevention training inclusive of the four foundations. 2. Implement organizational policy changes. 	<p>The AGS clinical practice falls prevention guidelines and the CDC's STEADI toolkit have already been developed and are available for use by clinical professionals/paraprofessionals.</p> <p>All 4 foundations of falls prevention may be addressed.</p>	<p>Possible resistance from clinical professionals/paraprofessionals.</p> <p>Current paradigm that falls are an inevitable consequence of aging.</p> <p>Scarcity of trained geriatric clinicians.</p>	<p>A paradigm shift within the community to the understanding that falls are not inevitable and that falls can be prevented.</p> <p>→ Clinical professionals/paraprofessionals will conduct fall prevention screenings on older adults, targeting older adults with a high fall risk.</p> <p>A reduction of falls and fall-related injuries among Hawaii's older adults.</p> <p>→ Expansion of the falls prevention network to include new falls prevention "champions."</p>

Moving Onward...

“Empowering people to grow older in their own homes and communities will not require a huge and expensive new government medical program. Rather, it will require a combination of sensible and affordable education, infrastructure improvements, community development efforts, family leave policies and other supports that can come about through collaboration between public and private sectors.”

–Governor Neil Abercrombie, 2010

The State Plan on Falls Prevention intends to call attention to the devastating consequences falls have on older adults and Hawaii’s communities, concluding with a list of strategic tactics developed by Hawaii’s Statewide Task Force on Falls Prevention and the desired impacts of those strategies. As mentioned earlier, the tactics intertwined in this strategic State Plan on Falls Prevention are rooted in the recommendations developed by Hawaii’s Injury Prevention Advisory Council (IPAC). To move falls prevention efforts forward, the strategies developed by the Task Force have been transmitted to Hawaii’s Statewide Falls Prevention Consortium for implementation. Hawaii’s Statewide Falls Prevention Consortium will utilize the above strategies as the basis for developing their operational plan, including developing an evaluative framework, prioritizing strategies, developing timeframes, exploring funding implications, and securing the partnerships needed to carry out the plan’s functions. The Consortium’s operational plan will work towards the collaborative goal of reducing falls and fall-related injuries, subsequently promoting active aging among Hawaii’s older adults.

To strengthen our efforts, further attention should also be given to post fall assistance of Hawaii’s older adults (such as, personal emergency response systems). The preceding plan details a prevention plan; however, we know that falls will continue to occur among our kūpuna and our ability to employ a timely intervention may delay or prevent institutionalization.

Evaluating falls prevention efforts is vital to the sustainability of programs and funding sources, leading to a call for action from those involved in data systems for fall injury surveillance (for example, Emergency Medical Services and hospital emergency rooms). Appropriately tracking and monitoring fall-related injuries, linking data sources, standardizing data collection, and conducting on-going evaluations of key programs will lead to more appropriate referrals to falls prevention programs and a better understanding of the effectiveness of the interventions available in Hawai’i. Activating this plan and improving Hawaii’s data collection systems will require a strong, cohesive falls prevention network. Moving towards a healthier future for Hawaii’s older adults will require the collective participation of these community leaders, as noted in Governor Abercrombie’s A New Day in Hawaii plan. The task at hand is large, yet imperative. A strong commitment from the falls prevention network will foster a greater community understanding that falls can be prevented and that falls are not an inevitable consequence of aging.

Appendix A: Definition and Meaning of Kūpuna

Throughout Hawai'i, this Hawai'ian word is widely understood to mean elder, grandparent or an older person. What is less recognized is the fact that the word has at least three distinct but related meanings. First, a kūpuna is an honored elder who has acquired enough life experience to become a family and community leader. The term has been stated to be the embodiment of natural respect ... a practitioner of aloha (love), pono (righteousness), malama (caring), and spirituality. In ancient times, they were teachers and caretakers of grandchildren and that bond was especially strong. Even today, the kūpuna is expected to speak out and help make decisions on important issues for both the family and the community.

Kūpuna also means ancestor and includes the many generations before us who, by their spiritual wisdom and presence, guide us through personal, familial or community difficulties. We look to our kūpuna to help us find and fulfill our pathways through life. Included among our kūpuna are the family guardian spirits or 'aumakua who take physical shape, in the form of a honu (turtle) or a pueo (owl) and come to visit, warn and communicate with us.

Finally, kūpuna means the source, the starting point or the process of growth. This meaning is related to the notion that our direct forebearers and those of the distant past remain living treasures who continue to help us grow in numerous ways. They are a source of experience, knowledge, guidance, strength and inspiration to the next generations.

Our kūpuna, for all of the above reasons, deserve a fall prevention plan to protect not only their futures, but our ability to benefit from their continued involvement and contributions to our lives.

Prepared by Kahikahealani Wright, Professor of Hawai'ian Language and Literature, Kapi'olani Community College

Appendix B: Resources

- Links to the CDC's evidence-based interventions can be found at: http://www.cdc.gov/HomeandRecreationalSafety/images/CDC_Guide-a.pdf
- Link to the CDC's STEADI Toolkit can be found at: www.cdc.gov/injury/STEADI
- Link to the American Geriatric Society's (AGS) Clinical Practice Falls Prevention Guidelines can be found at: http://www.americangeriatrics.org/files/documents/health_care_pros/Falls.Summary.Guide.pdf
- Information on the Physician Quality Reporting System (PQRS) can be found at: www.cms.hhs.gov/PQRS
- Information on Medicare's Annual Wellness Visit and billing information can be found at: <https://www.cms.gov/MLN Matters Articles/downloads/MM7079.pdf>
- Information on the Welcome to Medicare examination and billing information can be found at: http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/IPPE_AWW_Call_Presentation.pdf
- Information on policy changes relating to hospital-acquired conditions can be found at: <http://www.cms.gov/HospitalAcqCond>
- The Agency for Healthcare Quality and Research (AHRQ) toolkit can be found at: <http://www.ahrq.gov/qual/qitoolkit/>
- Comprehensive home modification checklist for the elderly is available through the Center for Disease Control: (<http://www.cdc.gov/ncipc/pub-res/toolkit/cksafety.pdf>).
- Hawaii's Five Year Plan for Implementing the Aging and Disability Resource Centers (ADRCs) can be found at: <http://www.hcsstrategies.com/HI%20Systems%20Change%205-Year%20Plan.pdf>

**Hawaii's Aging and Disability Resource Center (ADRC): www.hawaiiadrc.org
ADRC Statewide Phone Number: 643-2372 (TTY Line: 643-0899)**

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Neil Abercrombie, Governor of Hawaii

Loretta J. Fuddy, ACSW, MPH, Director of Health

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